

Application No.: 10/579,576
Amdt. dated 22 September 2010
Reply to Office Action of 7 July 2010

REMARKS

In the above-identified Office Action the Examiner has objected to Claim 17 because of certain noted informalities. These informalities have been corrected and, as such, Applicants believe Claim 17 to be acceptable.

In addition, the Examiner has maintained the rejection of claims 12-18 as unpatentable over Woodruff in view of Rickard. Applicants do not believe this rejection to be appropriate, noting that both Woodruff and Rickard rely on anaerobic digestion to break down the waste. Anaerobic digestion is done by bacteria. Applicants' invention does not require bacteria, being a process that is based only on temperature and pressure steps.

To highlight the difference between Applicants and the prior art, Applicants have amended the claims so that they now recite that gas is circulated between the first and second vessel. Neither Woodruff nor Rickard circulate the gas between their first and second vessel and, as such, Applicants believe that Claim 12, as amended, now recites over the art of record.

Woodruff refers to a method for the transformation of animal, vegetable and food byproducts into biogas and fertilizer. An essential feature is the anaerobic digestion of the educts present in aqueous phase, called influent. This influent is converted into biogas within an anaerobic treatment unit. A residue remains, which is separated into a solid and a liquid phase. The anaerobic digestion is done by bacteria either in mesophilic temperature range (20-30°C, preferably 35°C) or in the thermophilic temperature range (49-60°C, preferably 55°C). Thus the anaerobic digester of Woodruff is not equivalent with Applicants' first vessel.

Woodruff's anaerobic digester is a biogas reactor. The educts are initially transferred into biogas. Such a transformation requires the presence of mesophilic or thermophilic bacteria.

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The presence of microorganisms is essential if an anaerobic digester is concerned. The anaerobic digester has to contain an initial stock of microorganisms or these microorganisms have to be added. "Digestion" is a completely biological process.

On the contrary, the present invention is completely based on a physical-chemical reaction without digestion by microorganisms, i.e., the process is only based on temperature and pressure steps.

Woodruff teaches a completely different method. For instance:

- Woodruff is focused on biogas production, the present invention is focused on a method to produce nitrogen fertilizer;
- Woodruff only liberates the byproduct ammonia by strong alkalis, the present invention does not require alkalis;
- Woodruff basically liberates ammonia by air stripping, and re-dissolves it in water, the present invention liberates ammonia by a special system of temperature and two pressure intervals; and
- Woodruff dissolves ammonia in water and adds acids such as phosphoric acid in order to create ammonia salts, the present invention produces a specific ratio of CO₂ and NH₃ within the escaping gas, what results in a good stoichiometric reaction with the aqueous absorption agent (sulfate solution, gypsum suspension).

Concerning the claimed pressure ranges of Claim 12, the Examiner refers to Rickard. However, Rickard mentions only one pressure interval. Rickard does not mention two subsequent pressure steps, i.e., a first pressure step of 13-30 kPa and a second pressure step of 40-80 kPa.

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In the Examiner's "Response to Arguments" section, the Examiner states that the Woodruff reference suggests a conditioner which might include acids or alkalis but is taught to be workable without a conditioner. As set forth in Claim 12, Applicants recite that their product works "without acids or alkali." Woodruff teaches the possible use of acids or alkalis as recognized by the Examiner but also teaches the use of an enhancer "such as alkali" (column 6, line 22), phosphoric acid, (column 7, line 19) and acid AC (column 7, line 45). Thus acids and alkalis are an essential part of Woodruff's method and such use distinguishes itself from that of the invention as claimed in Claim 12.

Applicants hereby request reconsideration and reexamination thereof.

With the above amendments and remarks, this application is considered ready for allowance and applicants earnestly solicits an early notice of same. Should the Examiner be of the opinion that a telephone conference would expedite prosecution of the subject application, he/she is respectfully requested to call the undersigned at the below listed number.

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Respectfully submitted,



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